

Jack-o-Lantern

Concept

Team 3 wanted to have some fun by making a Halloween inspired Arduino project! A simple plastic pumpkin from Party City was the only prop that we needed, along with the components required to execute the programmed code. As the door to the studio is opened, a switch is triggered, indicating that the door has been opened. When the Arduino board receives the signal, a delay is then sent to a speaker and four LED lights, which have been installed inside of the plastic pumpkin. Once the unsuspecting person is inside of the room, the speaker plays a cynical laugh mp3 file and the lights illuminate the pumpkin.

Technical Information

This design required the use of an mp3 shield accessory for the Arduino Uno processor board; this allowed us to play the sound clip from a micro SD card. We chose to install headers instead of soldering the connections so the board can be used again for future projects. Each of the four LED lights have been wired to the power terminals on the mp3 shield, with a solder connection linking all of the wires to a common ground.

We thought that our switch could utilize tin foil for a connection at the doorframe, however through trial, we found tin foil wasn't conductive enough to close the circuit. Instead we soldered two pieces of metal to each side of the switch wires, and hot glued them to the doorframe.

As a group, we wanted to have a clean looking project, which we achieved by acknowledging the aesthetic of the design. All necessary components for the project to work are self contained within the plastic pumpkin. Using a smaller bread board and careful manipulation of the wiring allowed for this.